from 0.1 to 0.3% of vinyl succinimide. The molecular weight of vinyl succinimide may vary according to the conditions of formation. In the experiments, the characteristic viscosity changed between 0.7 and 1.4. The viscosity of the polymers is much higher when uric acid is added than it is with formalin. Additions of β-acetoxyethyl succinimide (raw material for the production of the monomer) strongly affect the polymerization rate. 1% of it completely impedes the formation of the polymer. There are 2 figures, 1 table, and 12 references: 7 Soviet-bloc and 5 non-Soviet-bloc. The three references to English-language publications read as follows: F. A. Bodey, J.M. Kolthoff, J. Amer. Chem. Soc. 68, 2143 (1947); C.E. Barnes et al., J. Amer. Chem. Soc. 72, 210 (1950); R. Gregg, F. Maya, J. Amer. Chem. Soc. 70, 2373 (1948).

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institute imeni Lensovet)

SUBMITTED: July 23, 1960

USHAKOV, S.N.

Two-phase gels of iodopolyvinyl alcohol. Dokl. AN SSSR 139 no.1: 160-162 Jl '61. (MIRA 14:7)

1. Institut vysokomolekulyarnkh soyedineniy AN SSSR. Chlen-korrespondent AN SSSR.
(Vinyl alcohol polymers)

USHAKOV, S.N.; TRUKHMANOVA, L.N.; DROZDOVA, E.V.; MARKELOVA, T.M.

Synthesis of paraaminosalicyl ester of polyvinyl alcohol. Dokl. AN SSSR 141 no.5:1117-1119 D '61. (MIRA 14:12)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR. 2. Chlen-korrespondent AN SSSR (for Ushakov).
(Salicylic acid)
(Vinyl alcohol polymers)

S/062/62/000/004/008/013
B110/B101

AUTHORS: Ushakov, S. N., and Aleyev, K. M.

TITLE: Synthesis of ethylol croton amide and N-methyl ethylol croton amide

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 4, 1962, 693-694

TEXT: The authors were the first to synthesize ethylol croton amide and N-methyl ethylol croton amide by acylating ethanol amine and methyl ethanol amine with crotonyl chloride. Since this reaction is highly exothermic, the following method was developed: The reaction is carried out in cold chloroform with double the molar amount of ethanol amine, the excess of which binds the HCl separated during the reaction in the form of $HCl \cdot H_2NCH_2CH_2OH$ which is insoluble in chloroform: $CH_3CH{=}CHCOCl + 2H_2NCH_2CH_2OH \longrightarrow CH_3CH{=}CHCONHCH_2CH_2OH + HCl \cdot H_2NCH_2CH_2OH\downarrow$. Crotonyl chloride of the fraction 123-125°C, obtained by the action of thionyl

Card 1/3

Synthesis of ethylol croton amide ...

chloride on solid crotonic acid, and distilled ethanol amine were used. The ethylol croton amide ($C_6H_{11}NO_2$) obtained in ~ 85% yield was a viscous, light-yellow (nearly colorless), neutral oil readily soluble in chloroform, acetone, dioxane, and water, but insoluble in ether, carbon, tetrachloride, and benzene (b.p. 153°C (1.5 mm Hg), n_D^{20} = 1.5077, d_{20}^{20} = 1.0855, bromine number 123.5, MR = 34.58). N-methyl ethylol croton amide could not be produced in this way since the hydrochloric acid salt of methyl ethanol amine is readily soluble in chloroform. Therefore, the reaction was carried out in a cold aqueous alkali solution at an equimolecular ratio of crotonyl chloride to methyl ethanol amine: $CH_3CH{=}CHCOCl + HN(CH_3)CH_2CH_2OH$

$\xrightarrow{NaOH}$ $CH_3CH{=}CHCON(CH_3)CH_2CH_2OH + NaCl + H_2O$. The N-methyl ethylol croton amide ($C_7H_{13}NO_2$) obtained in ~ 70% yield was a light-yellow (nearly colorless), neutral oil readily soluble in chloroform, alcohol, acetone, dioxane, and water in the cold, and, with heating, in

Card 2/3

Synthesis of ethylol croton amide ...

ether (b.p. 136°C (1.5 mm Hg), n_D^{20} = 1.5062, d_{20}^{20} = 1.0645, bromine number 111.1, MR = 39.8). When left standing it may crystallize to form needles melting at 58°C after recrystallization from ether.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institute imeni Lensovet)

SUBMITTED: November 5, 1961

Card 3/3

USHAKOV, S.N.; ALEYEV, K.M.

Synthesis of some croton derivatives. Izv.AN SSSR.Otd.khim.nauk no.6:1102-1105 '62. (MIRA 15:8)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.
(Crotonic acid)

SHCHUKOVSKAYA, L.L.; USHAKOV, S.N.; GALANINA, N.K.

Synthesis of halogenated acetaldehyde hydrates. Izv.AN SSSR.Otd.khim. nauk.no.9:1692-1693 S '62. (MIRA 15:10)

1. Institut vysokomolekylyarnykh soyedineniy AN SSSR.
(Acetaldehyde)

27136
S/190/62/004/005/012/026
B110/B144

5.3700

AUTHORS: Ushakov, S. N., Belogorodskaya, K. V., Bondarenko, S. G.

TITLE: Synthesis of dimethyl-butyl-silyl ether of polyvinyl alcohol

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 5, 1962, 704-707

TEXT: Synthesis and properties of dimethyl-butyl-silyl ether of polyvinyl alcohol have been described. Dimethyl-butyl aminosilane (b.p. 83-85°C/ 3-4 mm Hg; $d_{20} = 0.808$; $n_D^{20} = 1.4354$) obtained from dimethyl-butyl chlorosilane reacted with polyvinyl alcohol containing 1.3 mole% of acetate groups (viscosity 20 cp in benzene) in dry pyridine at ~100°C, and the ratio pyridine : polyvinyl alcohol was 50 : 1. The reaction products were separated in petroleum ether at a degree of substitution of 18-24 mole% and in a 4 : 1 mixture of methanol and water at a higher degree of substitution after formation of a homogeneous solution. The authors found: (1) The reaction rate increases with the dimethyl-butyl aminosilane excess. At a molar ratio of 1 : 2, dissolution

Card 1/3

Synthesis of dimethyl-butyl-silyl ...

sets in after 40-hr heating, and the degree of substitution is 18.48 mole%; at 1 : 4, dissolution takes place after 10-hr heating with a degree of substitution of 23.3 mole%. (2) The increase in the degree of substitution depends on the reaction time. A degree of substitution of 39.9 mole% is attained by increasing the reaction time from 5 to 25 hrs (ratio 1 : 3). The sum of hydroxyl, acetyl, and silicon ether groups was between 90 and 95 mole% owing to the loss of hydroxyl groups by dehydration. The IR absorption spectra 2815, 2950, and 2820 cm^{-1} corresponded to CH_2-CH(OH)-, $-CH_2-CH(OCOCH_3)-$, and $-CH_2-CH\left[OSiC_4H_9(CH_3)_2\right]-$ groups, respectively. The introduction of large, nonpolar groups caused an increase in solubility in nonpolar solvents. Introduction of 18.4 mole% of dimethyl butyl silyl groups reduced the vitrification temperature of polyvinyl alcohol from 80°C to 32.7°C since the hydrogen bonds between the chains were disturbed. The above ethers show better solubility in benzene and petroleum ether, poorer tensile strength, and greater elongation at rupture than triethyl silyl ethers. There are 3 tables.

Synthesis of dimethyl-butyl-silyl ... S/190/62/004/005/012/026
B110/B144

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: April 1, 1961

Card 3/3

NIKOLAYEV, A.F.; USHAKOV, S.N.; VISHNEVETSKAYA, L.P.; VORONOVA, N.A.; RODINA, E.I.

Copolymerization of vinyl acetate and vinylphthalimide. Vysokom.soed. 4 no.7:1053-1059 Jl '62. (MIRA 15:7)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta. (Vinyl acetate) (Phthalimide) (Polymerization)

44422

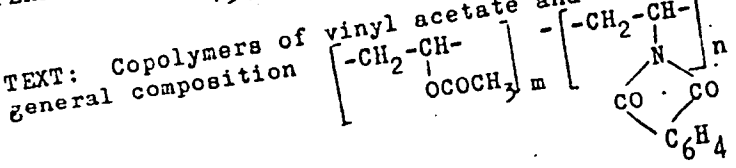
S/190/62/004/010/009/010
B101/B186

AUTHORS: Nikolayev, A. F., Ushakov, S. N., Vishnevetskaya, L. P., Voronova, N. A.

TITLE: Properties of copolymers of vinyl acetate with vinyl phthalimide

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 10, 1962, 1541-1546

TEXT: Copolymers of vinyl acetate and vinyl phthalimide (VPI) with the general composition



were studied to determine their solubility in different organic solvents, their molecular weight, vitrification temperature, Vicat heat resistance, softening point, impact strength, bending strength, and water adsorption. Copolymers obtained by

Card 1/3

Properties of copolymers of I...

simultaneous charging of the components in bulk or in solution, contained an excess of VPI - VPI bonds. Compensation copolymerization yielded copolymers with a low content of such bonds differing by their thermomechanical behavior. Results: (1) The solubility in solvents in which polyvinyl acetate is soluble, decreased as the VPI content increased; (b) the intrinsic viscosity decreased as the VPI content increased. The molecular weight of copolymers containing little VPI was determined from $[\eta] = 1.6 \cdot 10^{-4} \bar{M}_w^{0.7}$, where $[\eta]$ was measured in acetone, at 25°C, and $\bar{M}_w$ is the average-weight molecular weight. $\bar{M}_w$ of copolymers containing 14% VPI was 148100, and 146200 for 23% VPI. (3) An increase in the VPI content raised the softening point, Vicat heat resistance, and glass temperature (°C), respectively: 0 mole% VPI: 60, 37, 28; 20 mole% VPI: 75, 66, 41; 56 mole% VPI: 163, 108, 62; 98 mole% VPI: 210, 182, 135. (4) For copolymers containing 0, 23, 56, 70, and 98% VPI, the specific gravity (g/cm³) was 1.190, 1.220, 1.230, 1.235, 1.245, respectively; the water adsorption within 24 hrs (%) was 1.60, 0.7, 0.42, 0.40, and 0.39%, respectively. The Vickers Hardness number (kg/mm²) was 16-18, 15-19, 15-18, 16-19, and 18-20, respectively; the bending strength

Card 2/3

(kg/cm^2) was 530, 270, 160, 230, and 515, respectively, and the impact strength (kg/cm^2) was 2.6, 1.5, 1.1, 1.2, and 3.5, respectively. All samples were hardly inflammable and very stable to gasoline and lubricating oils. A minimum of mechanical properties was observed at a VPI content of 50-60%.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institute imeni Lensovet)

SUBMITTED: June 22, 1961

Card 3/3

USHAKOV, S.N.; KLIMOVA, O.M.; KARCHMARCHIK, O.S.; SMUL'SKAYA, E.M.

Synthesis of blood substitute polymers exhibiting the properties of inhibitors-antioxidants. Dokl. AN SSSR 143 no.1:231-234 Mr '62. (MIRA 15:2)

1. Chlen-korrespondent AN SSSR (for Ushakov).
(BLOOD PLASMA SUBSTITUTES)
(VINYL COMPOUND POLYMERS)
(CANCER RESEARCH)

S/020/62/147/005/020/032
B106/B186

AUTHORS: Ushakov, S. N., Corresponding Member AS USSR, Panarin, Ye. F.

TITLE: Combination of penicillins with water-soluble polymers

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 5, 1962, 1102-1104

TEXT: Penicillin G and penicillin V were bound by salification to water-soluble copolymers of vinyl amine with vinyl alcohol in order to regulate the duration of stay of the penicillin preparation in the organism by changing the molecular weight of the polymer. To produce the copolymers, vinyl acetate was first copolymerized with vinyl phthalimide in molar ratios between 49:1 and 9:1 in toluene at 70°C. The reaction product (60 % yield) was heated on a water bath with a fivefold excess of hydrazine hydrate to form the copolymer desired. The copolymers used contained about 2 mole % of vinyl amine components. For salification of the copolymer with penicillin G, the solution of the penicillin (in the form of free acid) in chloroform was mixed with the aqueous solution of the copolymer. The resulting emulsion was poured into acetone whereupon the polymeric salt precipitated (95 % yield). The salt contained 11.22 % by weight of penicillin. The poorly water-soluble penicillin V in solid

Card 1/2

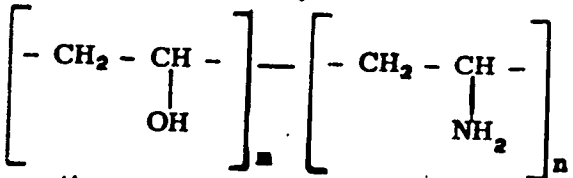
USHAKOV, S.N.

AID Nr. 980-15 31 May

COPOLYMERS OF VINYL ALCOHOL AND VINYLAMINE (USSR)

Nikolayev, A. F., S. N. Ushakov, L. P. Vishnevetskaya, and N. A. Voronova.
Vysokomolekulyarnyye soyedineniya, v. 5, no. 4, Apr 1963, 547-551.
S/190/63/005/004/011/020

Copolymers of vinyl alcohol and vinylamine (I) of varying compositions and the general formula



were prepared by reacting copolymers of vinyl acetate and N-vinylphthalimide with hydrazine hydrate at 85 to 110°C for 2 to 6 hrs, depending on the N-vinylphthalimide content of the intial copolymer. Final products containing more than 10% I were isolated by precipitating them twice from water solution poured into alcohol, and those with a higher I content, by Reynolds' method.

Card 1/2

AID Nr. 980-15 31 May

COPOLYMERS OF VINYL ALCOHOL [Cont'd] S/190/63/005/004/011/020

The final copolymers are solids soluble in solvents which will dissolve polyvinyl alcohol. Copolymers containing 12 to 44 mol % I have the following properties: glass transition temperature, 57 to 46°C; softening point, 125 to 100°C; Vicat softening point, 84 to 74°C; bending strength, 200 to 500 kg/cm^2; and Vickers hardness, 14 to 19 kg/mm^2. The glass transition temperature, heat resistance, and softening point of the copolymers drop with an increase of the amino group content. The study was carried out at the Leningrad Technological Institute imeni Lensovet. [BAO]

Card 2/2

USHAKOV, S.N., prof. (Leningrad)

Synthesis. Zdorov'e 9 no.5:3 My'63. (MIRA 16:9)

1. Chlen-korrespondent AN SSSR.
(POLYMERS) (PHARMACEUTICAL RESEARCH)

USHAKOV, S.N.

Polymer drug compounds, Med. promyshl. SSSR 17 no.8:5-13 Ag '63 (MIRA 17:2)

1. Leningradskiy tekhnologicheskiy institut.

USHAKOV, S.N.; PANARIN, Ye.F.

Synthesis of high-molecular weight amides and hydrazides of penicillins. Dokl. AN SSSR 149 no.2:334-337 Mr '63. (MIRA 16:3)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.
2. Chlen-korrespondent AN SSSR (for Ushakov).
(Amides) (Hydrazides) (Penicillin)

USHAKOV, S.N.; TODORIU, P.

Synthesis of boron derivatives of polyvinyl alcohol. Dokl. AN SSSR 153 no.2:366-369 N '63. (MIRA 16:12)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.
2. Chlen-korrespondent AN SSSR (for Ushakov).

ACCESSION NR: AP4019010 S/0062/64/000/002/0344/0346

AUTHOR: Aleyev, K. M.; Ushakov, S. N.

TITLE: Synthesis of polyurethanes with regularly occuring side branches of unsaturated structure

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 2, 1964, 344-346

TOPIC TAGS: crosslinked urethane polymer, diethylolamide, diethylcrotonamide, glycerine crotonate, polyurethane, urethane polymer

ABSTRACT: Because of the great importance of polyurathanes in industry, the authors undertook a study of their "crosslinked" variety, formed by the action of different compounds (diisocyanates, unsaturated monomers, capable of homo- or heteropolymerization by radical mechanism) which form bridging cross bonds between chains. The authors prepared a new type of polyurethanes with side branches containing double bonds by migration copolymerization of diisocyanates with diethylolamides and glycerides of unsaturated carboxylic acids. They synthesized and described compounds not as yet described in the literature: N,N-bis(2-oxyethyl) crotonamide (diethylcrotonamide) and 2,3-dioxypropylcrotonate

Card 1/2

ACCESSION NR. AP4019010

(glycerine-1-crotonate). These new unsaturated polyurethanes are specially interesting for making crosslinked structures by their copolymerzation with crotonic acid and small quantities of vinyl monomers. Orig. art. has 3 formulas.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institute)

SUBMITTED: 04Sep62 DATE ACQ: 27Mar64 ENCL: 00

SUB CODE: CH NO. REF. SOV: 002 OTHER: 001

Card 2/2

NIKOLAYEV, A.F.; USHAKOV, S.N.; MISHKILEYEVA, L.S.

Copolymerization of N-vinylsuccinimide and vinyl acetate. Vysokom.soed. 6 no.2:287-291 F '64. (MIRA 17:2)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

ACCESSION NR: AP4032564 S/0190/64/006/004/0630/0634

AUTHORS: Belogorodskaya, K. V.; Ushakov, S. N.

TITLE: Synthesis of dimethylpropylsilyl, and dimethylphenylsilyl esters of polyvinyl alcohol

SOURCE: Vysokomolek. soyedin., v. 6, no. 4, 1964, 630-634

TOPIC TAGS: polyvinyl alcohol, polyvinyl alcohol ester, dimethylpropylsilyl ester, dimethylphenylsilyl ester, dimethylpropylaminosilane, dimethylphenylaminosilane, esterification, solubility of ester

ABSTRACT: The synthesis of dimethylpropylsilyl ester of polyvinyl alcohol was conducted in a pyridine medium at 100C. A polyvinyl alcohol of 27 000 molecular weight with various amounts of dimethylpropylaminosilane was used. It was found that the degree of substitution depended on the excess of aminosilane and on the reaction time. The polymers produced were colorless rubber-like masses adhering well to glass, leather, plastics, and wood. Their solubility in nonpolar solvents increased with a higher degree of substitution. The synthesis of dimethylphenylsilyl ester of polyvinyl alcohol was conducted under similar conditions from

Card 1/2

ACCESSION NR: AP4032564

polyvinyl alcohol and dimethylphenylaminosilane. Polymers so obtained had 25-90 mole/% silyl blocks. The degree of substitution depended on the reaction time and on the excess of aminosilane. These polymers were readily soluble in benzene, pyridine, and dioxane, but were insoluble in water. They were rubberlike and possessed good adhesive properties. The reaction rate of substitution of the OH groups was higher in this group of polymers than in the ones obtained with dimethylpropylaminosilane. Orig. art. has: 2 charts, 4 tables, and 1 formula.

ASSOCIATION: Tekhnologicheskiy institut im. Lensoveta (Technological Institute)

SUBMITTED: 15Apr63 DATE ACQ: 11May64 ENCL: 00

SUB CODE: GC, MM NO REF SOV: 003 OTHER: 000

Card 2/2

S/0190/64/006/005/0934/0939

ACCESSION NR: AP4037290

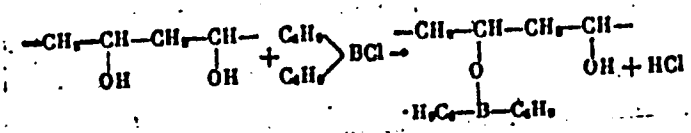
AUTHORS: Ushakov, S. N.; Tudoriu, P.

TITLE: Synthesis of the ester of polyvinylalcohol and di-n-butylboric acid

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 5, 1964, 934-939

TOPIC TAGS: polyvinylalcohol butylboric acid ester, dibutylboroxyl group, ester formation, ionizing solvent, pyridine ionizing, dimethylformamide ionizing, dimethylsulfoxide ionizing, polyvinylalcohol butylboron chloride reaction

ABSTRACT: The ester was synthesized by the interaction of polyvinylalcohol with di-n-butylboron chloride according to the scheme



Card 1/3

ACCESSION NR: AP4037290

Polyvinylalcohol of 48 000 molecular weight was dissolved in one of the electronodonor polar solvents (pyridine, dimethylformamide, or dimethylsulfoxide) and was treated with various amounts of di-n-butylboron chloride (DBBC). The mixture was heated to the desired temperature for different lengths of time and the resulting polyesters were subjected to elementary and infrared spectral analysis. They were also tested for hydroxyl group content and solubility in various solvents. It was found that at 80-100C and a 12- to 24-hour duration of the reaction the degree of esterification amounted to 13.6-36.5%. In a pyridine and dimethylformamide media the percentage of hydroxyl group substitution was little affected by the ratio of the reactants, while in dimethylsulfoxide it showed a marked rise with increased DBBC content. Another series of experiments revealed a slow acceleration of the reaction rate with time in a pyridine medium. In dimethylformamide, and especially in dimethylsulfoxide, the esterification proceeded at a much higher rate and at a faster acceleration. Calculation of the vitrification temperatures for the copolymers of polyvinylalcohol and vinyl ester of DBBC showed that the T_g for the compound containing 6.2 mole/% DBBC was 76C, as against 27C for the copolymer with a 49.5 mol/% substitution. Orig. art. has: 2 formulas and 4 tables.

Card 2/3

ACCESSION NR: AP4037290

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensovets (Leningrad Technological Institute)

SUBMITTED: 01Jul63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: MT,OC NO REF SOV: 003 OTHER: 006

Card 3/3

ACCESSION NR: AP4043784 S/0190/64/006/008/1463/1466

AUTHOR: Ushakov, S. N.

TITLE: The synthesis of chloroacetals of polyvinyl alcohol

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 8, 1964, 1463-1466

TOPIC TAGS: polyvinyl alcohol, chloroacetal, polyvinyl acetal, polyvinylchloroethylal

ABSTRACT: In order to fill gaps in the available literature, the authors prepared polyvinylchloroethylal in a heterogeneous liquid-solid phase by reacting different molar proportions of aqueous chloroacetaldehyde hydrate and polyvinyl alcohol (16.1 : 100 and 8.1 : 100) at different pH values (0.5, 1.0, 1.5) and temperatures (55, 70, 85C) for up to 10 hrs., using 2 N sulfuric acid as the catalyst. The reaction, which yielded products with a degree of substitution of 2-25.4 mol.%, was found to be stimulated by lower pH values, higher temperatures and higher proportions of the reacting aldehyde. The procedure is described in detail and the results are presented in the form of graphs. Optimal conditions for the process are suggested. Orig. art. has: 3 graphs and 3 structural formulas.

ASSOCIATION: Institut vy*sokomolekulyarny*kh soyedineniy AN SSSR (Institute of High-Molecular Compounds, AN SSSR).

Card 1/2

ACCESSION NR: AP4043784

SUBMITTED: 27Sep63 ENCL: 00 SUB CODE: OC

NO REF SOV: 004 OTHER: 005

Card 2/2

U.S.S.R. [illegible]

Polymers and chemotherapy. [illegible]

1. Chien-Korrespondent AN S.S.S.R.

GLIKMAN, S.A.; USHAKOV, S.N.; KORCHAGINA, Ye.P.; LAVRENT'YEVA, Ye.N.

Certain properties of iodopolyvinyl alcohol gels. Dokl. AN SSSR 154 no.2:372-374 Ja'64. (MIRA 17:2)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR i Saratovskiy gosudarstvennyy universitet im. N.G. Chernyshevskogo. 2. Chlen-korrespondent AN SSSR (for Ushakov).

TRUKHMANOVA, L.B.; USHAKOV, S.N.; MARKELOVA, T.M.

Synthesis of water-soluble copolymers of vinyl alcohol with its diacetyl-p-aminosalicylic ester. Vysokom. soed. 6 no.7: 1346-1349 Jl '64 (MIRA 18:2)

1. Institut vysokomolekuryarnykh soyedineniy AN SSSR.

L 23076-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/RM

ACCESSION NR: AP4047397 S/0062/64/000/010/1838/1843

AUTHOR: Ushakov, S. N. (Deceased); Tudoriu, P.

TITLE: Synthesis of the complex compound of diphenylchloroborane with dimethylformamide

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 10, 1964, 1838-1843

TOPIC TAGS: diphenylchloroborane, diphenylchloroborane dimethylformamide adduct, synthesis, stability

ABSTRACT: The formation of the adduct of diphenylchloroborane and dimethylformamide (DMF) was investigated. Diphenylchloroborane, obtained from boric acid: $B(OH)_3 \longrightarrow B(OC_4H_9\text{-}i)_3 \longrightarrow (C_6H_5)_2BOC_4H_9\text{-}i \longrightarrow (C_6H_5)_2BCl$, was reacted with DMF either by direct mixing, by reaction in inert solvent such as methylene chloride, or in a precipitating agent (petroleum ether, n-pentane, absolute ether), or in excess DMF (to be used directly in further reactions). The product $(C_6H_5)_2BCl.HCON(CH_3)_2$ was stable at 100-130C and melted at 181-185C. It was hygroscopic, hydrolysing in moist air or water to form free DMF, diphenyl-

Card 1/2

L 23076-65
ACCESSION NR: AP4047397

boric acid and HCl. The compound reacted with alcohols according to the equation: $(C_6H_5)_2BCl.HCON(CH_3)_2 + ROH \longrightarrow (C_6H_5)_2BOR + HCON(CH_3)_2 \cdot HCl$

The structure of the compound and its catalysis of vinyl monomer polymerizations ie to be described in future publications. Orig. art. has: 7 equations.

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensovyeta (Leningrad Technological Institute)

SUBMITTED: 11Jan63 ENCL: 00

SUB CODE: GC, OC NO REF SOV: 003 OTHER: 008

Card 2/2

BOGOMOLOVA, L.G.; USHAKOV, S.N.; IZMAYLOVA, Ye.F.; LAVRENT'YEVA, Ye.M.; DEKSTER, B.G.; PETROVA, L.I.

Effect of thixotropic gel of iodopolyvinyl alcohol on experimental atherosclerosis. Pat. fiziol. i eksp. terap. 9 no.2: 8-12 Mr-Ap '65. (MIRA 18:5)

1. Leningradskiy institut perelivaniya krovi (dir. - dotsent A.D. Belyakov; nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR prof. A.N.Filatov) i Institut vysokomolekulyarnykh soyedineniy (dir. - chlen-korrespondent AN SSSR prof. M.M.Koton), Leningrad.

L 32974-65 EWT(m)/EPF(c)/EPR/EWP(j)/EWA(c) Pc-4/Pr-4/Ps-4 MPL WW/JAJ/RM

ACCESSION NR: AP5007426 S/0286/65/000/004/0060/0060

AUTHOR: Aleyev, K. M.; Usnakov, S. N.

TITLE: A method for synthesizing polyurethanes. Class 39, No. 168432

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 60

TOPIC TAGS: polymer, plastic, polyurethane

ABSTRACT: This Author's Certificate introduces a method for synthesizing polyurethanes based on diisocyanates and amides. Linear polyurethanes with regularly alternating side branches of an unsaturated type are produced by using a diethylene amide of crotonic acid, in particular N,N-bis-(2-oxyethyl)-amide.

ASSOCIATION: none

SUBMITTED: 06Jul62 ENCL: 00 SUB CODE: MT

NO REF SOV: 000 OTHER: 000

Card 1/1

L 56520-65 EWA(j)/EWT(m)/EPF(c)/EWP(j)/T/EWA(b)-2 Pc-4/Pr-4 RM

ACCESSION NR: AP5016719 UR/0286/65/000/010/0034/0034

AUTHORS: Ushakov, S. N.; Kashkina, N. A.

TITLE: A method for obtaining polymer forms of physiologically active fatty aromatic compounds. Class 12, No. 171005

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 10, 1965, 34

TOPIC TAGS: polymer, aromatic compound, physiological effect/ KF catalyst

ABSTRACT: This Author Certificate presents a method for obtaining polymer forms of physiologically active compounds. These compounds contain, in the lateral aliphatic chain, the secondary and primary amine groups, such as ephedrine, phenamine, propadine, or pervitine. The physiologically active fatty aromatic compounds (containing in the lateral aliphatic chain the secondary and primary amine groups) are subjected to an interaction with haloidacetal polyvinyl alcohol at a temperature of 140-145C in the presence of a solvent. The process may be conducted in the presence of a haloid-bearing catalyst, such as KF.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High-Molecular Compounds, AN SSSR)

Card 1/2

L 56520-65
ACCESSION NR: AP5016719

SUBMITTED: 11May64 ENCL: 00 SUB CODE: OC

NO REF SOV: 000 OTHER: 000

Card 2/2

GIVENTAL', N.I.; USHAKOV, S.N. [deceased]; PANARIN, Ye.F.; POPOVA, G.O.

Experimental study of polymeric derivatives of penicillin.
Antibiotiki 10 no.8:701-706 Ag '65. (MIRA 18:9)

1. Kafedra mikrobiologii Tsentral'nogo instituta usovershenstvovaniya vrachey i Institut vysokomolekulyarnykh soyedineniy AN SSSR, Moskva.

USHAKOV, S.N. [deceased]; TUDORIU, P.

Synthesis of a complex compound of diphenylboron chloride with dimethylformamide. Izv. AN SSSR. Ser. khim. no.10:1838-1843 O '64. (MIRA 17:12)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta.

L 1156-66 EWT(m)/EPF(c)/EWP(j)/T RPL WW/RM

ACCESSION NR: AP5022007 UR/0286/65/000/014/0078/0078
678.744.72-134.567

AUTHOR: Ushakov, S. N.; Panarin, Ye. F.; Glinskaya, O. V.

TITLE: A method for producing copolymers of vinyl alcohol and vinyl mercaptan. Class 39, No. 172993

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 78

TOPIC TAGS: vinyl alcohol, mercaptan, copolymer, polymerization

ABSTRACT: This Author's Certificate introduces: 1. A method for producing copolymers of vinyl alcohol and vinyl mercaptan. Polymers of vinyl esters are treated with hydrosulfides or sulfides of alkali metals in a solution of an inert organic solvent with the application of heat. 2. A modification of this method in which the composition of the copolymer is controlled by treating the vinyl esters in the presence of a small quantity of water.

ASSOCIATION: none
SUBMITTED: 04Feb63 ENCL: 00 SUB CODE: MT, OC
NO REF SOV: 000 OTHER: 000

Card 1/1 DP

KHOMYAKOV, K.P.; VIRNIK, A.D.; USHAKOV, S.N. [deceased]; ROGOVIN, Z.A.

Synthesis of ester of dextran and polentanic acid. Khim.prirod. soed. no.4:245-246 '65.

(MIRA 19:1)

1. Moskovskiy tekstil'nyy institut. Submitted March 29, 1965.

KHOMYAKOV, A. ., VIRNIK, A.D.; USHAKOV, S.N. [deceased]; ROGOVIN, Z.A.,
Prinimal uchastiye: PENENZHIK, M.A.

Synthesis of polymeric medicinal compounds based on dextran derivatives.
Vysokom. soed. 7 no.6:1035-1040 Je '65. (MIRA 18:9)

1. Moskovskiy tekstil'nyy institut.

L 7020-66 EWT(m)/EPF(c)/EWP(j)/T RPL WW/RM

ACC NR: AP5026779 SOURCE CODE: UR/0286/65/000/017/0067/0067

AUTHOR: Ushakov, S. N.; Davidenkova, V. V.; Arditi, A. I.

TITLE: A method for producing vinylpyrrolidone copolymers. Class 39, No. 174355 [announced by Institute of High Molecular Compounds, AN SSSR (Institut vysokomolekulyarnykh soyedineniy AN SSSR)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 67

TOPIC TAGS: copolymerization, radical polymerization, polymerization initiator

ABSTRACT: This Author's Certificate introduces a method for producing vinylpyrrolidone copolymers with an unsaturated compound by copolymerizing the corresponding monomers in the block or in solution at 40-70°C in the presence of radical polymerization initiators. A wider variety of water-soluble polymers is provided by using a derivative of *n*-aminobenzoic acid as the unsaturated compound.

UDC: 678.744.3

SUB CODE: GC,MT/ SUBM DATE: 19Feb64/ ORIG REF: 000/ OTH REF: 000

Card 1/1

27126-66 EWT(1)/T JK

ACC NR: AP6017124 SOURCE CODE: UR/0297/65/010/008/0701/0706

AUTHOR: Givental', N. I.--Givental, N.I.; Ushakov, S. N. (Deceased); Panarin, Ye. F.--Panarin, E. F.; Popova, G.O.

ORG: Department of Microbiology of the Central Institute for the Advanced Training of Physicians (Kafedra mikrobiologii Tsentral'nogo instituta usovershenstvovaniya vrachey); Institute of High-Molecular Compounds, AN SSSR, Moscow (Institut vysokomolekulyarnykh soyedineniy AN SSSR)

TITLE: Experimental study of polymeric derivatives of penicillin

SOURCE: Antibiotiki, v. 10, no. 8, 1965, 701-706

TOPIC TAGS: penicillin, organic amide, polymer, rat, mouse, nonmetallic organic derivative, bacteria

ABSTRACT: Penicillin activity of polymeric derivatives of penicillin G and V can be determined both by the method of diffusion and that of agar, as well as by the series dilution method, using the test microbe Staph. aureus-209 P. Data obtained from biological titration are in agreement with the results of iodometric titration. Polymeric amides of penicillin G and V subjected to biological titration immediately after being dissolved in water yield strongly reduced penicillin activity values, differing sharply from the data of iodometric titration and from the original penicillin concentration in polymeric amides. Stability of aqueous solutions of polymeric salts of penicillin G

Card 1/2 UDC: 615.779.931-092

L 27126-66

ACC NR: AP6017124

and V does not differ from the stability of aqueous solutions of the corresponding crystalline salts of penicillin G and V when stored under refrigerator conditions or at room temperature. When intramuscularly administered to rats, polymeric salts of penicillin G are marked by higher (compared to the potassium salts) penicillin concentrations in the blood and organs during the first hours following administration. The acute toxicity of the polymeric salt of benzyl penicillin of series 78 (molecular weight 18,000) for mice when given intravenously proved to be (when recalculated on a penicillin basis of activity) 140% higher than for the potassium salt of penicillin. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07, 06 / SUBM DATE: 26Jan65 / ORIG REF: 008 / OTH REF: 002

Card 2/2

ACC NR: AP6017977 SOURCE CODE: UR/0413/66/000/010/0079/0079

INVENTORS: Ushakov, S. N.; Fingauz, I. M.

ORG: none

TITLE: A method for obtaining [illegible]yvinyl acetal. Class 39, No. 181810

SOURCE: Izobreteniya, promysh[illegible]yye obraztsy, tovarnyye znaki, no. 10, 1966, 79

TOPIC TAGS: polymer, vinyl, su[illegible]nic acid

ABSTRACT: This Author Cert[illegible] presents a method for obtaining polyvinyl acetal in water emulsion. The saponification of polyvinyl acetate and acetylizing the resulting polyvinyl alcohol are conducted in the presence of petroleum sulfonic acids.

SUB CODE: 11/07/ SUBM DATE: 27Jun47

Card 1/1 UDC: 678.744.53.002.2

USHAKOV, S. S.

Tool making for railroad assembly work Moskva, Gos. transp. zhel-dor. izd-vo, 1944. 91 p. (Bibliotechka vosstanovitelia zheleznykh dorog) (51-50748)

TF350.U8

USHAKOV, S. S.

Vosstanovlenie ustroistv parovoznogo khoziaistva. [Restoration of locomotive facilities]. Moskva, Gos. transp. zhel-dor. izd-vo, 1946. 230 p. illus.
DLC: TF505.U8

SO: SOVIET TRANSPORTATION AND COMMUNICATIONS, A BIBLIOGRAPHY, Library of Congress Reference Department, Washington, 1952, Unclassified.

USHAKOV, S. S.

Development of apparatus for the steam-engine and diesel locomotive railroad transportation Moskva, Gos. transp. zhel-dor. izd-vo, 1952. 304 p. (52-66746)

TJ605.U84)

USHAKOV, Serafim Sergeyevich, kandidat tekhnicheskikh nauk; KOGOSOV, B.Ye., inzhener, redaktor; YUDZON, D.M., tekhnicheskiy redaktor

[Ways to increase the productive capacity of locomotives] Puti povysheniia proizvoditel'nosti lokomitivov. Moskva, Gos. trans. zhel-dor. izd-vo 1954. 222 p. [Microfilm] (MLRA 8:2)
(Locomotives)

USHAKOV, S.S., kandidat tekhnicheskikh nauk.

Making use of fuel and power resources of various types of traction engines. Tekh.zhel.dor.15 no.2:8-11 Mr '56. (MLRA 9:7)
(Locomotives--Performance)

USHAKOV, S.S., kandidat tekhnicheskikh nauk.

Locomotive runs in operating with electric locomotives and diesel locomotives. Zhel.dor.transp. 37 no.5:20-25 My '56. (MLRA 9:8)
(Locomotives--Performance)

USHAKOV, Serafim Sergeyevich, kand.tekhn.nauk; PESKOVA, L.N., red.; KHITROV, P.A., tekhn.red.

[Increasing the efficiency of new types of traction] Povyshenie effektivnosti novykh vidov tiagi. Moskva, Gos.transp.zhel-dor. izd-vo, 1959. 302 p. (MIRA 12:5)
(Locomotives)

CHERNOMORDIK, Grigoriy Il'ich; RYVKIN, Yuliy Yefimovich. Prinimali uchastiye: USHAKOV, S.S.; GERONIMUS, B.Ye.. GORODNICHEV, N.G., red.; BOBROVA, Ye.N., tekhn.red.

[Fundamentals of designing railroads with electric and diesel traction] Osnovy proektirovaniia zheleznykh dorog s elektricheskoi i teplovoznoi tiagoi. Moskva, Gos.transp.izd-vo, 1959. 327 p. (MIRA 12:12)

(Railroad engineering)

USHAKOV, Serafim Sergeyevich; FEL'DMAN, E.D., kand. tekhn. nauk, retsenzent; GUBAREVA, N.T., red.; USENKO, L.A., tekhn. red.

[Advantages of electric and diesel traction] Preimushchestva elektricheskoi i teplovoznoi tiagi. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 45 p. (MIRA 14:8)

(Diesel locomotives) (Electric locomotives)

USHAKOV, S.S., kand.tekhn.nauk

Technical and economic results of the operation of electric and diesel locomotives on some main lines. Zhel.dor.transp. 43 no.4:8-14 Ap '61. (MIRA 14:3)
(Electric locomotives) (Diesel locomotives) (Railroads--Cost of operation)

USHAKOV, S.S.; SAMOKHVALOV, V.A., retsenzent; PESKOVA, L.N., red.; VOROB'YEVA, L.V., tekhn.red.

[Ways to increase speeds in railroad transportation] Puti povysheniia skorostei na zheleznodorozhnom transporte. Moskva, Transzheldorizdat, 1963. 84 p. (MIRA 17:1)

ZAGLYADIMOV, D.P.; USHAKOV, S.S.; VERKHOVSKIY, I.A.; ORLOV, D.A.; KOSOBREYEV, S.I.; RYZHKOV, A.S., red.; GERASIMOVA, Ye.S., tekhn. red.

[Development of the unified transportation system in the U.S.S.R.] Razvitie edinoi transportnoi seti SSSR. Moskva, Ekonomizdat, 1963. 131 p. (Transportation) (MIRA 16:5)

LUGOVOY, P.A., inzh.; TSYPIN, L.G., inzh.; GIBSHMAN, A.Ye., prof., doktor tekhn. nauk, retsenzent; USHAKOV, S.S., doktor tekhn. nauk, retsenzent; KRISHTAL', L.I., red.; VOROTNIKOVA, L.F., tekhn. red.

[Technical and economic calculations in the reorganization of railroads] Tekhniko-ekonomicheskie raschety pri rekonstruktsii zheleznykh dorog. Moskva, Transzheldorizdat, 1963. 246 p. (MIRA 16:4)
(Railroad engineering)

USHAKOV, S.S., doktor tekhn. nauk

Urgent problems in the improvement of locomotives. Zhel. dor. transp. 45 no.5:54-57 My '63. (MIRA 16:10)

ACC NR: AP6005546 (A) SOURCE CODE: UR/0030/66/000/001/0026/0029

AUTHOR: Ushakov, S. S. (Doctor of technical sciences)

ORG: none

TITLE: Some problems of transportation power supply

SOURCE: AN SSSR. Vestnik, no. 1, 1966, 26-29

TOPIC TAGS: transportation, transportation power supply

ABSTRACT: Some remarks about the possibilities of improving motors and engines used in various types of transportation are presented. In 1965, electric and diesel traction was responsible for 85% of cargo and passenger transport with further prospects for adoption of these types of power. Replacing steam engines with electric motors and diesels has saved over 80% of fuel resources. Electric traction can be improved by reducing transmission and transformation losses which are as high as 15—21% in a-c systems and 17—22% in d-c systems. This new system deserves attention: h-v dc — h-f h-v ac — h-f l-v ac — controllable-frequency ac or dc — traction motor; such a locomotive was designed by the Moscow Power-Engineering

Card 1/2 UDC: 656.0

L 39529-66

ACC NR: AP6005546

Institute and is being built at the Tbilisi Locomotive Plant. Use of semiconductor power rectifiers seems very promising. The most widely used locomotive diesels consume 180—185 g/hp·hr; a new diesel with 150—155 g/hp·hr has been tested. Locomotive diesel-electric transmissions developed over 40 years ago need improvement. The higher fuel consumption (320—330 g/hr·hr) of gas-turbine locomotives hampers their adoption. At present, Soviet car-type gasoline has an octane number of 66—72; hence, car motors with a compression ratio as low as 7 have been used. The octane number should be upped to 100 units. The toxicity of car exhausts makes cars objectionable in large cities; hence, electrically-driven cars are desirable; for them, fuel cells operating on some cheap fuel should be developed. Need is felt for designing ship-propulsion diesel plants up to 25000 hp capacity. Orig. art. has: no figures, formulas, or tables.

SUB CODE: 15, 09 / SUBM DATE: none

Card 2/2 vmb

S/130/63/000/001/001/008
A006/A101

AUTHORS: Galyan, V. S., Zhukov, D. G., Keys, N. V., Ushakov, S. T., Khayrutdinov, R. M., Shatalov, M. I.

TITLE: Improving the transformer steel melting techniques

PERIODICAL: Metallurg, no. 1, 1963, 13 - 14

TEXT: Previous transformer steel melting techniques were based on the combined oxidizing of carbon with iron ore and oxygen, and diffusion deoxidation of the metal with ferrosilicon admixture. The cold rolled steel produced by this technique showed unsatisfactory magnetic properties. During 1959 and 1960 some improvements were made at the KMK including the use of an increased amount of iron ore for oxidation of Cr, Mg and P; reduction of the carbon and manganese content; decreased oxidation of the metal during melting, more complete deoxidation of the steel during the reduction period. A more accurate correlation of iron-ore and admixtures in the metallic portion of the charge, increased slag amount, strict observation of temperature conditions during oxygen blast, and an increased amount of silico-calcium, were the improvements achieved. On the basis

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Improving the transformer steel melting techniques S/130/63/000/001/001/008
A006/A101

of the new techniques transformer steel was melted in a high capacity electric furnace in 1961. To reduce metal oxidation at the beginning of the oxidation period, 10% cast iron was added to the charge; the optimum metal temperatures were established at the end of oxygen blast (1,590 - 1,620°C) and in the ladle (1,570 - 1,590°C). The content of ferric oxide in the slag decreased at the end of melting to 28 - 33% and at the end of the oxidation period to 38 - 41%. The carbon content after oxygen blast exceeded 0.03% in 80% of heats, and the manganese content was not below 0.05 - 0.06%. As a result the magnetic properties of 0.35 mm thick sheets were improved. There is 1 table.

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S/130/63/000/004/002/004
A006/A101

AUTHORS: Loyberg, I. Ya., Chief of the charge department, Ushakov, ~~S. T.,~~ Engineer of TsZL

TITLE: Stainless steel melting in high-capacity electric furnaces

PERIODICAL: Metallurg, no. 4, 1963, 19 - 21

TEXT: Information is given on the operation of high-capacity furnaces in the melting of stainless steel grades 2-4X13 (2-4Kh13), 1X18H9T (1Kh18N9T) and 1X18H10T (1Kh18N10T). The loading of stainless steel waste is performed with 14 m^3 capacity containers, equipped with tilting devices. Special hooks are mounted on the traverse beams of lifting cranes for the overturning of the container. The ferroalloys are supplied to the shop on special platforms equipped with dismountable 3 m^3 containers holding up to 10 tons of ferroalloys. The charge consists of 60 - 70% wastes (Cr-Ni steels, transformer steels, or soft iron). The Cr content in the charge is calculated to be 12.0%, Ni 0.5% and Si 0.7 - 0.8% over the lower limit. Oxygen blast in the pool is performed with two 3/4 inch pipes with chamotte lining. Oxygen consumption 35 - 40 m^3/min;

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Stainless steel melting in high-capacity...

pressure 8 - 11 atm; duration 40 min to 1 hour. The C content after blast is 0.06 - 0.08%, C loss per blast is 2.0 - 3.0%. Cooling down of the pool and the addition of ferroalloys is performed as follows: after oxygen blast, silico-manganese and the basic ferrochrome amount are added so that not more than 1.5 tons will remain for metal finishing for Cr. Steel wastes (2.0 tons) are charged upon the ferrochrome. Crushed silicochrome or 75%-ferrosilicon is added for de-oxidation of the slag. Ferro-silicon powder is poured onto the free slag sur-face. The total Si consumption is 9 kg per 1 ton of steel. Time of operation 15 - 20 min. The furnace is switched in to 326 - 300 v; the power is reduced after melting of the ferrochrome and production of liquid slag. The slag and the Fe-Si should be thoroughly mixed. After removal of the deoxidized slag, the metal is brought to the required chemical analysis; lime and fluorspar slag is produced and deoxidized with Al powder (1.0 kg per 1 ton). Ferro-titanium is then charged to 1.10 - 1.15% without taking into account the loss. Titanium loss is 45 - 50%. Metal temperature prior to its addition is 1,550 - 1,600°C, and 1,530 - 1,560°C in the ladle. The steel is teemed into molds for 4.5 and 6.2 t ingots. The quality of the steel is satisfactory and not below that of steel melted in small-capacity furnaces. There are 3 figures.
ASSOCIATION: TsZL

Card 2/2

ACCESSION NR: AR4011440 S/0137/63/000/012/V038/V038

SOURCE: RZh. Metallurgiya, Abs. 12V284

AUTHOR: Galyan, V. S.; Keys, N. V.; Khayrutdinov, R. M.; Ushakov, S. T.

TITLE: Melting electric steel with the use of molten pig iron in the charge

CITED SOURCE: Sb. Teoriya i praktika metallurgii. Chelyabinsk, vy*p. 5, 1963, 63-69

TOPIC TAGS: Electric steel melting, pig iron, high carbon steel melting, electric furnace

TRANSLATION: Experimental meltings with molten pig iron were carried out in a 90-t arc furnace. The feasibility of melting high-carbon steels in this electric furnace, using 30-40% of molten pig iron, was established. When such a charge is used, the duration of the melting is reduced by 8-10%, and the consumption of electrical energy is decreased by 15-20%. D. Kashayeva.

DATE ACQ: 09Jan64 SUB CODE: ML ENCL: 00

Card 1/1

GALYAN, V.S.; ZHUKOV, D.G.; KEYS, N.V.; USHAKOV, S.T.; KHAYRUTDINOV, R.M.; SHATALOV, M.I.

Improving the procedure for making transformer steel. Metallurg 8 no.1:13-14 Ja '63. (MIRA 16:1)

(Steel—Metallurgy)
(Sheet steel—Magnetic properties)

GALYAN, V.S.; YARTSEV, M.A.; KHAYRUTDINOV, R.M.; GOLIKOV, Yu.S.; USHAKOV, S.T.; MALYGIN, Yu.D.

Use of intermediate products in the making of electric steel. Metallurg 10 no.3:14-16 Mr '65. (MIRA 18:5)

1. Nauchno-issledovatel'skiy institut metallurgii i Chelyabinskiy metallurgicheskiy zavod.

VETUKHNOVSKIY, Z.B.; DARAZHIO, G.N.; USHAKOVA, V.I.

Information on the improved methods for industrial painting of articles and on painting equipment; literary review. Lakokras. mat. i ikh prim. no.4:69-72 '63. (MIRA 16:10)

VETUKHNOVSKIY, Z.B.; DARAZHIO, G.N.; USHAKOVA, V.I.

Improving the methods of the preparation of metal surfaces for painting. Lakokras.mat.i ikh prim. no.6:44-49 '62. (MIRA 16:1)
(Protective coatings) (Metals--Finishing)

USHAKOVA, V.I., Cand Biol Sci -- (diss) " Conditions of formation of Vitamin B_{12} by a culture of Bacillus megatherium ~~culture~~." Mos, 1959. 11 pp (Mos Order of Lenin and Order of Labor Red Banner State U im M.V. Lomonosov). 110 copies (KL, 37-59, 107)

25

NOVIKOVA, G.A.; PETROVA, E.A.; USHAKOVA, V.I.; FEOFILOVA, Ye.P.

Formation of diacetyl and acetoin by lactic acid streptococci.
Trudy Inst. mikrobiol. no. 6:87-92 '59. (MIRA 13:10)

1. Kafedra mikrobiologii Moskovskogo gosudarstvennogo universiteta.
(BUTANONE) (BUTANEDIONE) (LACTIC ACID BACTERIA)

AUTHOR: Ushakova, V. I. SOV/20-122-3-54/57

TITLE: Conditions of Vitamin B_{12} Production by a Culture of Bacillus megatherium (Usloviya obrazovaniya vitamina B_{12} kul'turoy Bacillus megatherium)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 3, pp 520 - 523 (USSR)

ABSTRACT: Since the vitamin B_{12} had been isolated in crystalline shape from the liver its preparations are amply used in medical practice as well as in animal breeding as a growth-, development-, and reproductive factor (Refs 1-3). This vitamin is now produced almost only microbiologically (Refs 4-6). The isolation from the bacteria cells turned out to be more economical (Refs 7,8). The author investigated the vitamin B_{12} production on a number of synthetic culture media by the microorganism mentioned in the title, furthermore the distribution of the latter between the bacteria cells and the culture medium. The culture was made available by the Institut mikrobiologii

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Conditions of Vitamin B_{12} Production by a Culture of *Bacillus megatherium* SOV/20-122-3-54/57

AN SSSR (Institute of Microbiology AS USSR). Liquid culture media served for the investigations. The following medium was chosen as main background: $(NH_4)_2HPO_4$ 0,4%; Na_2SO_4 0,2%; KCl 0,08%; Mg, Ca, Mn, Fe, Zn and Co as chlorides 50, 20, 15, 5,5, 10 mg/l respectively. Vitamin B_{12} was determined microbiologically by means of the eprouvette method with the aid of *Escherichia coli* 113-3 as test microbe. The results of the first experimental series (of the mentioned culture medium + 2% glucose) are given in table 1. Further experimental series dealt with the addition of 0,5% of chalk (Table 2), of sodium lactate (Table 3), succinic acid, as sodium salt (0,5%) + glucose, and pyruvic acid (up to 0,050 g/100 ml). The author draws the following conclusions from the paper: 1) The development of *Bac.megatherium* on culture medium with a glucose addition as the only carbon source is soon stopped in consequence of a strong acidification of the culture medium. In the case of an acidification up to

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pH 4,5 the greatest quantity of vitamin B_{12} is separated from the cells in the culture medium. 2) A similar culture, however, with chalk, yields a far greater yield cell in the case of an unchanged total productivity of the cells. 3) Salts of organic acids, added to the culture medium together with glucose, produce a more favorable pH-level and secure an accumulation of considerable biomass as well as of the vitamin B_{12} per unit volume. 4) Bac. megatherium shows a good formation of spores on culture media with an addition of the salts of the lactic, succinic-, and pyruvic acid. 5) Vitamin B_{12} is stored quantitatively in the spores with the beginning of the lysis. 6) The spores are a vitamin source of higher concentration than the cells. This paper was carried out under the supervision of V.N.Shaposhnikov, Member, Academy of Sciences, USSR. There are 5 tables and 1o references, 3 of which are Soviet.

Conditions of Vitamin B_{12} Production by a Culture of *Bacillus megatherium* SOV/20-122-3-54/57

PRESENTED: May 9, 1958, by V.N.Shaposhnikov, Member, Academy of Sciences, USSR

SUBMITTED: May 9, 1958

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17 (2)

AUTHOR: Ushakova, V. I.

SOV/20-127-4-50/60

TITLE: The Distribution of Vitamin B_{12} Between Bacterial Cells and the Medium in Connection With Sporulation in a Culture of Bacillus megatherium

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 4, pp 903-906 (USSR)

ABSTRACT: The rules governing the distribution mentioned in the title have to be taken into consideration in estimating the productivity of bacterial cells with regard to the synthesis of vitamin B_{12}. As had been mentioned by the author (Ref 1), the majority of the vitamin goes from the cell into the medium if the medium is acidified up to pH 4.5-4.7; no lysis of the culture occurred. At the same time no vitamin was precipitated into the medium with an entire lysis of the culture in connection with sporulation. The spores were richer in vitamin than the vegetative cells. In the present paper the investigations mentioned are continued. Great importance was attached to the selection of media guaranteeing a large-scale production of spores of Bac. megatherium. Method of investigation: see (Ref 1). Table 1 shows the results obtained (also in the case of glucose introduction).

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The Distribution of Vitamin B_{12} Between Bacterial Cells and the Medium in Connection With Sporulation in a Culture of Bacillus megatherium SOV/20-127-4-50/60

The medium contained peptone or casein-hydrolysate as the only carbon and nitrogen source. The initial pH was ~ 7.0. Further investigations showed that a complex medium guaranteeing the highest vitamin yields is a medium with Khotinger broth with the following additions: peptone - 0.7%; K_2HPO_4 - 0.05%; Na_2SO_4 - 0.2%; KCl - 0.08%; Mg, Ca, Mn, Fe, Zn, and Co as chlorides 50, 20, 5, 5, and 10 mg/l. Initial pH was also 7.0. Table 2 shows the results. Table 3 shows the investigation results of the vitamin synthesis with addition of lactic, succinic, or malic acid (as sodium salts, 1% each) as the only carbon sources. Data on the comparative investigation of the vitamin synthesis with 2% glucose and one of the organic acids mentioned (0.4-0.5% as sodium salt) are summarized in table 4. By the increase in glucose concentration up to 4% in combination with lactic acid (1%) or succinic acid (1%) neither vitamin yield nor cell productivity were increased. Only a somewhat larger biosubstance was accumulated; sporulation was reduced (Table 5). The author draws the following conclusions from the above results: A normal

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The Distribution of Vitamin B_{12} Between Bacterial Cells and the Medium in Connection With Sporulation in a Culture of Bacillus megatherium SOV/20-127-4-50/60

developmental cycle of Bac. megatherium ending with sporulation takes place at pH values which are close to neutral ones. Large-scale sporulation with vitamin B_{12} being almost entirely concentrated in the spores takes place on synthetic media with nitrogen as ammonia and with a combination of salts of organic acids with glucose. A glucose (2%) combination with succinic or malic acid (0.5%) as salts is the most favorable. V. N. Shaposhnikov had the scientific supervision of the investigation. There are 5 tables and 2 references, 1 of which is Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: April 18, 1959, by V. N. Shaposhnikov, Academician

SUBMITTED: April 18, 1959

Card 3/3

USHAKOVA, V.I.

Conditions for the formation of vitamin B_{12} by Bacillus megatherium cultures. Vit. res. i ikh isp. no.5:61-72 '61. (MIRA 15:1)

1. Moskovskiy gosudarstvennyy universitet.
(CYANOCOBALAMINE) (BACILLUS MEGATHERIUM)

YEGOROV, N.S.; USHAKOVA, V.I.

Conditions for the formation of novobiocin from an Actinomyces spheroides culture. Development of a synthetic medium and a study of the effect of some nitrogen and carbohydrate sources on the biosynthesis of the antibiotic. Antibiotiki 7 no.10: 863-868 0'62 (MIRA 16:12)

1. Kafedra mikrobiologii Moskovskogo universiteta.

USHAKOVA, V.I.; YEGOROV, N.S.

Development of the synthetic medium and study of the influence of phosphorus, fats and some organic acids on the biosynthesis of novobiocin. Antibiotiki 8 no.6:488-494 Je'63 (MIRA 17:3)

1. Kafedra mikrobiologii Moskovskogo gosudarstvennogo universiteta.

YEGOROV, N.S.; TOROPOVA, Ye.G.; USHAKOVA, V.I.; MIKHAYLOVA, T.N.; MIRONOV, V.A.

Formation of novobiocin in the dynamics of the development of Actinomyces spheroides culture on a synthetic medium with various nitrogen sources. Antibiotiki 10 no.8:678-684 Ag '65. (MIRA 18:9)

1. Kafedra mikrobiologii Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova.

YER[illegible], N.[illegible]; [illegible], V.[illegible]; [illegible], I.M.

Ability of some micro-organisms to produce fibrinolytic substances. Dokl. AN SSSR 165 no.1:217-220 N '65. (MIRA 18:10)

1. Moskovskiy gosudarstvennyy universitet. Submitted December 21, 1964.

L 04962-67 EWT(m)/EWP(j) RM
ACC NR: AP6006726 (A) SOURCE CODE: UR/0303/66/000/001/0085/0088

AUTHOR: Vetukhnovskiy, Z. B.; Darazhio, G. N.; Ushakova, V. I.

ORG: none

TITLE: Instruments and methods for testing paint and varnish coatings

SOURCE: Lakokrasochnyye materialy i ikh primeneniye, no. 1, 1966, 85-88

TOPIC TAGS: protective coating, paint, varnish

ABSTRACT: The article reviews foreign and Soviet literature on the instruments and methods of testing organic coatings. The following items are discussed: instruments for measuring the hardness; instruments for determining the wear resistance; adhesiometer; measurement of the porosity of the coatings; viscometer; thickness gage; study of the sedimentation of pigments by means of x-ray absorption; microscopic study of systems of organic coatings; quantitative evaluation of the discoloration of coatings; measurement of surface roughness; electrochemical tests of the protective properties of coatings; study of coatings under various climatic conditions; comparison of results of accelerated and natural tests.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 012/ OTH REF: 018

Card 1/1

ACC NR: AP6032039 SOURCE CODE: UR/0411/66/002/005/0595/0599

AUTHOR: Yegorov, N. S.; Ushakova, V. I.

ORG: Soil Biology Faculty, Moscow State University im. M. V. Lomonosov (Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta)

TITLE: Fibrinolytic and proteolytic activity of certain mycobacteria and actinomycetes

SOURCE: Prikladnaya biokhimiya i mikrobiologiya, v. 2, no. 5, 1966, 595-599

TOPIC TAGS: medicine, microbiology, bacteriology, primitive plant, fungus, mycobacteria, physiology, enzymology, medical research, enzyme, biochemistry, infective disease, fibrinolysin

ABSTRACT: *In vitro* experiments were performed to investigate the fibrinolytic and proteolytic activity of certain mycobacteria and actinomycetes, which produce lytic substances related to fibrinolysin in blood fractions. The organisms were grown both on synthetic media and on complex media of unknown organic composition in surface or deep cultures. Substances produced by most of these widely distributed strains produced both proteolytic and fibrinolytic substances. The relative quantities of these enzymes were not determined. Certain actinomycetes

Card 1/2 UDC: 576.852

ACC NR: AP6032039

strains were tested as to their ability to lyse fibrin specifically. In three strains the relative fibrinolytic and proteolytic activities were compared. The mycelia of one strain produced fibrinolytic material only in the presence of fibrinogen in the media. [WA-50; CBE No. 12

SUB CODE: 06/ SUBM DATE: 18Dec65/ ORIG REF: 002/ OTH REF: 002/

Card 2/2

ACC NR: AP6032039 SOURCE CODE: UR/0411/66/002/005/0595/0599

AUTHOR: Yegorov, N. S.; Ushakova, V. I.

ORG: Soil Biology Faculty, Moscow State University im. M. V. Lomonosov (Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta)

TITLE: Fibrinolytic and proteolytic activity of certain mycobacteria and actinomycetes

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ABSTRACT: *In vitro* experiments were performed to investigate the fibrinolytic and proteolytic activity of certain mycobacteria and actinomycetes, which produce lytic substances related to fibrinolysin in blood fractions. The organisms were grown both on synthetic media and on complex media of unknown organic composition in surface or deep cultures. Substances produced by most of these widely distributed strains produced both proteolytic and fibrinolytic substances. The relative quantities of these enzymes were not determined. Certain actinomycetes

Card 1/2 UDC: 576.852

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SUB CODE: 06/ SUBM DATE: 18Dec65/ ORIG REF: 002/ OTH REF: 002/

Card 2/2

KREYN, Selim Grigor'yevich; USHAKOVA, Valentina Nikolayevna; KOPYLOVA, A.N., red.; AKSEL'ROD, I.Sh., tekhn. red.

[Mathematical analysis of elementary functions] Matematicheskii analiz elementarnykh funktsii. Moskva, Fizmatgiz, 1963. 168 p. (MIRA 16:4)
(Mathematical analysis) (Functions)

USHAKOVA, V. P.

11 May 50

USSR/Biology - Phosphorus
Fertilizers

"Physiological Heterodynamics of Phosphorus for Various Distributions of Fertilizer in the Soil," P. A. Dmitrenko, V. P. Ushakova, Ukrainian Sci Res Inst of Socialist Agr, 3 pp

"Dok Ak Nauk SSSR" Vol LXXII, No 2

Discusses results of tests made with millet to find effect on growth of plant, contents of P_2O_5 in plant, yield of above-ground mass of plant of different distributions of P_2O_5 in form of $Ca(H_2PO_4)_2$ in soil. Finds it is most effective when placed in upper layer of the soil in layer 4 cm thick -- depth seed is placed. Concludes that not only time but technique of application is important in use of fertilizer. Submitted 20 Feb 50.

PA 160T7

USHAKOVA, V. P., Cand of Chem Sci — (diss) "Kinetics of a catalytic oxidation of naphthalene in phthalic anhydride under conditions excluding diffusion retardation." Kiev, 1957, 9 pp (Institute of Physical Chemistry im L. V. Pisarzhevskiy, AS UkrSSR), 100 copies (KL, 29-57,89)

USHAKOVA, V. P.

73-2-8/22

AUTHORS: Ushakova, V.P., Korneychuk, G.P., Royter, V.A. and Zhigaylo, Ya. V.

TITLE: Kinetics and mechanism of the oxidation of naphthalene on a oxyvanadium catalyst. 1: Investigation of the effect of the gas phase composition on the chemical composition of the catalyst and on the catalytic activity. (Kinetika i mekhanizm okisleniya naftalina na okisnovanadiyevom katalizatore. 1: Issledovaniye vliyaniya sostava gazovoy fazy na khimicheskiy sostav katalizatora i ego kataliticheskuyu aktivnost').

PERIODICAL: "Ukrainskiy Khimicheskiy Zhurnal" (Ukrainian Journal of Chemistry), Vol.23, No.2, March-April, 1957, pp.191-199 (USSR).

ABSTRACT: The possibility of poisoning of the catalysts at changing concentration of the reagents in the gaseous phase was investigated. A catalyst used in the plant reactor of the Rubezhansk Chemical factory was subjected to chemical analysis. V_2O_4 was determined with permanganate and V_2O_5 by titrating with ferrous ammonium sulphate. Tabulated results (Table 1) show that the catalyst is subjected to the biggest changes in the centre of the reactor. It

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